

*Q 1*  
*Cond*  
3. (Amended) The thermoionic cathode of claim 2, wherein said buffer by altering  
miniaturizes grain sizes of grains at the surface of said substrate contacting said buffer.

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6. (Amended) The thermoionic cathode of claim 2, wherein said buffer alters the grain  
structure at the surface of said substrate contacting said buffer by at least one of  
dissolution, alloying, reaction, precipitation, and new phase formation.

*Q 2*

7. (Amended) The thermoionic cathode of claim 1, wherein said buffer blocks said  
substrate, said buffer being from a chemical class similar to a chemical class of said  
substrate. *(S)*

*Q 3*

16. (Amended) The thermoionic cathode of claim 1, wherein said buffer blocks said  
substrate, said buffer blocking a grain structure at a surface of said substrate contacting  
said buffer by at least one of alloying, reaction, precipitation, and new phase formation.

Please add the following claim:

*Q 4*  
--36. (New) The thermoionic cathode of claim 1, wherein said buffer alters and  
blocks said substrate by reacting therewith to form a randomly oriented surface  
structure.--